

RESPONSE UNDER 37 C.F.R. §1.116
U.S. Application Serial No. 08/921,533

REMARKS

Claims 1 to 22 are pending in the present application. In the present Office Action, claims 1-8 and 11-22 have been rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 5,084,051 to Törmälä et al (the "'051 patent"). Claims 9 and 10 have been rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over the '051 patent in view of Bonfield et al. Applicants respectfully traverse these rejections as the '051 patent does not teach or suggest a "fibrillated" resorbable polymeric reinforcing component.

Independent claim 1 and 16 recite a biodegradable and bioactive composite material for surgical osteosynthesis applications comprising "at least one resorbable polymeric matrix component," "at least one fibrillated resorbable polymeric reinforcing component in fiber form," and "at least one bioceramic or bioglass reinforcing component mixed with said matrix component." As is generally known in the art of polymer chemistry, a polymer that is fibrillated is one whose molecular structure has been oriented to form a group of microfibrils. (See U.S. Patent No. 4,968,317 attached herein as Exhibit A). The '051 patent does not teach or suggest a "fibrillated" resorbable polymeric reinforcing component as there is no mention of drawing the fibers of a resorbable polymeric reinforcing component to induce molecular orientation resulting in the formation of microfibrils.

According to the Examiner, however, the "'051 [patent] suggests that the reinforcement element structures can be applied as oriented fibers." The section of the '051 patent upon which the Examiner relies states:

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It is natural that also other reinforcement element structures can be applied in this connection such as e.g. parallel fibres or fibres which are randomly oriented on the surface of the bioceramic. The reinforcement can be used in such a way that the reinforcement elements are located on the surface of the bioceramic components.

Thus, the '051 patent does not disclose the “fibrillated” fibers of the instant claims, as the “parallel fibres or fibres which are randomly oriented on the surface of the bioceramic” plainly is not a disclosure of fibrillation as required by the claims, but instead reflects the manner (i.e., in parallel or randomly) in which unfibrillated fibers are placed on the surface of the bioceramic. For at least this reason, Applicants submit that claim 1 and 16 (and all claims that depend therefrom) are not rendered obvious by the '051 patent.

Claims 9 and 10 were rejected under 35 U.S.C. 103(a) as being obvious over the '051 patent in view of Bonfield. Applicants submit that Bonfield does not teach or suggest at least one fibrillated polymeric reinforcing component (as used in the instant claims) and therefore does not overcome the deficiencies of the '051 patent with respect to independent claim 1, the claims from which claims 9 and 10 depend. Therefore, Applicants submit that even if there were a motivation to combine the teaching of Bonfield with the '051 patent, which Applicants are in no way conceding, the combined references do not teach or suggest a fibrillated resorbable polymeric reinforcing component. Applicants therefore submit that claims 9 and 10 are not rendered obvious by the '051 patent in view of Bonfield.

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CONCLUSION

Applicants respectfully submit that the present application is in a condition for allowance, which action is earnestly solicited. Upon consideration of the foregoing remarks, the Examiner is invited to contact the undersigned at (202) 220-4200 to discuss any matter concerning this application.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 11-0600.

Respectfully submitted,

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Version With Markings to Show Changes Made

Claim 1. (Five Times Amended) A biodegradable and bioactive composite material for surgical osteosynthesis applications comprising: i) at least one resorbable polymeric matrix component, ii) at least one fibrillated [oriented] reinforcing component and iii) at least one bioceramic or bioglass reinforcing component mixed with said matrix component.

Claim 16. (Five Times Amended) A biodegradable and bioactive composite material for surgical osteosynthesis applications comprising: i) at least one resorbable polymeric matrix component, ii) at least one fibrillated [oriented] resorbable polymeric reinforcing component in fiber form, and iii) at least one bioceramic or bioglass reinforcing component mixed with said matrix component, the diameter of the oriented resorbable polymeric reinforcing component being greater than the diameter or particle size of the bioceramic or bioglass reinforcing component.